

(12) UK Patent Application (19) GB (11) 2 339 673 (13) A

(43) Date of A Publication 09.02.2000

(21) Application No 9816189.6

(22) Date of Filing 25.07.1998

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(51) INT CL⁷

A41D 19/00

(52) UK CL (Edition R)

A3V V1A1B

(56) Documents Cited

WO 97/15203 A1

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US 4519097 A

US 4164043 A

(58) Field of Search

UK CL (Edition P) A3V

INT CL⁶ A41D 13/08 13/10 19/00, A63B 71/14

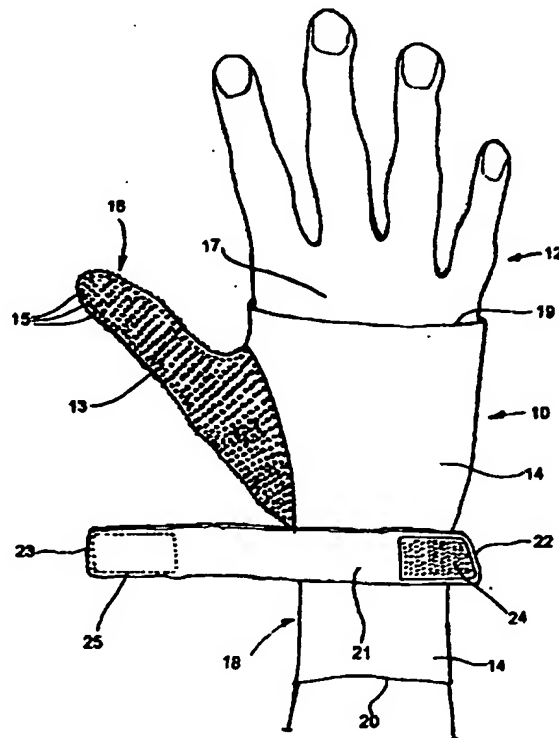
Online:WPI

(54) Abstract Title

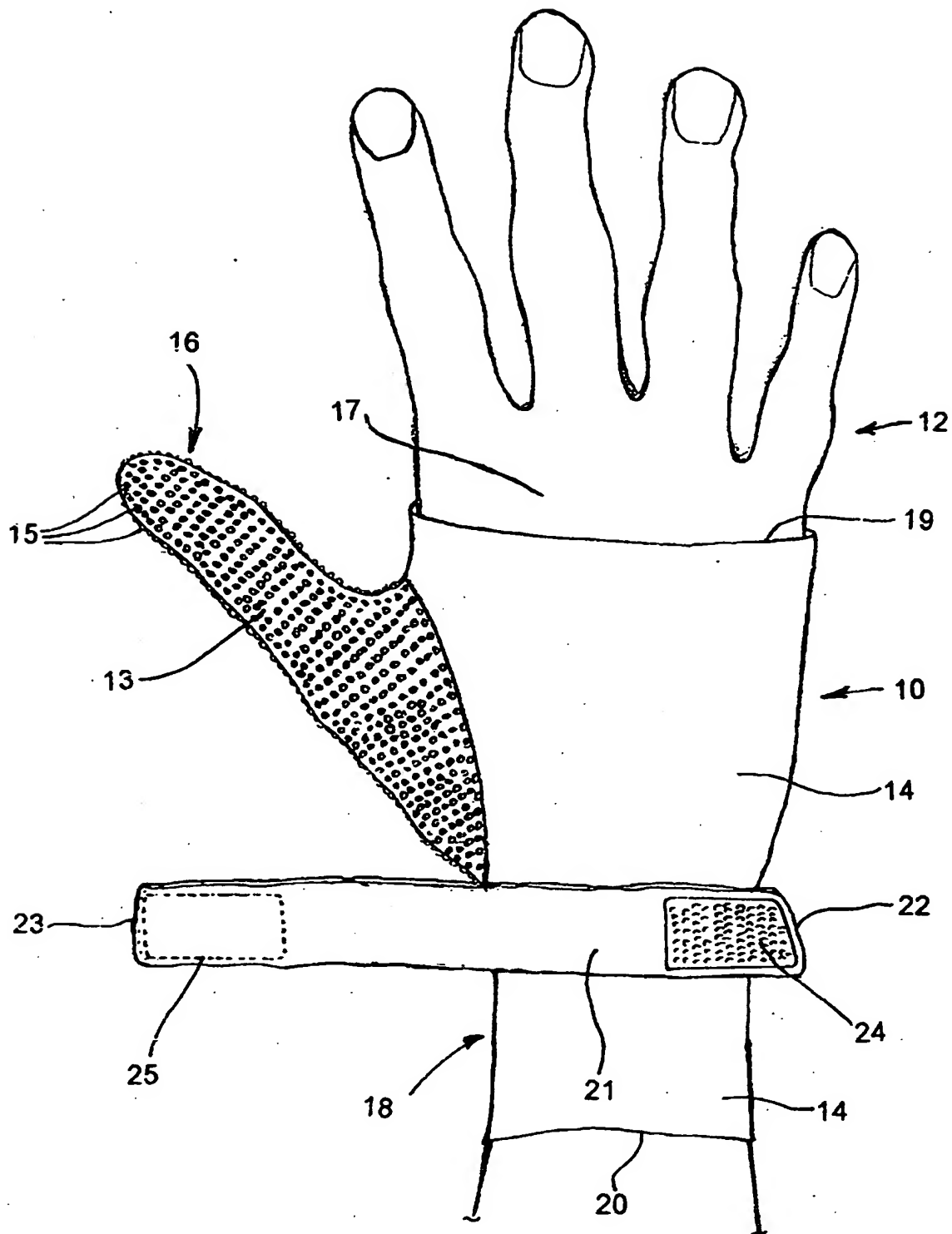
Thumb protector

(57) A thumb-protector (10) comprising an elasticised sheath (13) which fits snugly on the thumb of a user. Releasable retention means usually comprising a Velcro fastening strap (21) are attached to the sheath to secure the sheath on the thumb of a user. The area of the thumb protector which overlies the ball of the thumb (generally indicated 16) is provided with friction enhancing means (15) and padding. The thumb protector is preferably further provided with a sleeve (14) which passes around the palm (17) of the user's hand (12). When the thumb-protector is worn by a video game player the hand of the user is protected from damage whilst also improving the user's grip on the controller.

Figure 1



GB 2 339 673 A

Figure 1

Thumb-protector

The present invention is directed to a thumb-protector for preventing damage to the thumb of a user whilst playing computer games.

5 In recent years, the prevalence of computer games has increased dramatically, and now in addition to the growth of PC based computer games, dedicated games consoles designed purely for playing games have also become widespread. PCs and consoles can support various types of input device in addition to simple alphanumeric keyboards, as these can increase
10 the realism and capabilities of the computer games. These input devices can range from joysticks to light-guns and from steering wheels/pedals to control-pads.

The most popular by far of these are control pads, which is the standard device supplied with any new game console that is purchased, a
15 control pad is the most adaptable to different types of game. A control-pad is generally designed to be held with both hands, and is provided with two groups of buttons or directional controllers, each group of which is to be controlled by the respective thumb of each hand. The buttons are pressed by the lower side of the thumb, opposite the nail (hereinafter refer to as the ball
20 of the thumb) whilst an opposing force is applied by the fingers of the same hand.

Whilst playing many games it is necessary, as well performing many other repetitive actions, to execute rapid and complex schemes of multiple button pushing to achieve the correct results. The excitement and tension

that such computer games evoke in the player can also lead to a player exerting more pressure on the buttons than is necessary and thereby stress the thumbs. Furthermore, as play in many computer games can last for a substantial period, especially as the player's skill improves, the thumbs can
5 be subjected to excess stress for many hours. In addition, by their very nature computer games can be extremely addictive, and consequently players tend to play them over and over so the amount of game-playing time can be quite extended.

The net result of the above factors is that it is possible for the thumbs
10 of a user to become injured or at least sore from this over use. Whilst it is of course possible carefully to limit the time that a person spends playing on such games, or indeed the force that is exerted on the buttons, the exciting nature of the games does not lend itself to such abstinence.

Therefore in order to mitigate the above mentioned problems
15 associated with game play, in accordance with the present invention, there is provided a thumb-protector which comprises a sheath formed at least partially from elasticated material and which is adapted in use to fit snugly over the thumb of a user, and releasable retention means adapted in use to pass around the hand or wrist of a user so as thereby to secure the protector on
20 the thumb of a user, the area of the sheath which in use overlies the ball of the thumb being provided with padding and there being friction enhancing means disposed over at least the outer surface of the sheath which overlies the ball of the thumb.

There are various methods by which the sheath could be held upon the thumb. Preferably, the releasable retention means comprises a sleeve to which the sheath is attached and which fits over the hand and to be located between the wrist and the first set of knuckles but without inhibiting the movement of the thumb. It is easier if the sleeve is disposed both above and below the point where the thumb joins the hand and so, more preferably, the sleeve is provided with an aperture through which the thumb passes, with the sheath being fitted to the sleeve in the area around the aperture. This allows the wearer to don the thumb-protector by slipping the sleeve over his fingers and into place around his palm and at the same time insert his thumb through the aperture and into the sheath. This effectively prevents the sheath from sliding off of thumb in a lateral direction or up the arm past the wrist.

It is still possible for the sleeve to be slid off over the fingers for removal, but accidental or inadvertent removal may be mitigated to some extent by forming the sleeve from an elasticated material such as Lycra®. Furthermore an item such as this, which is intended for occasional use, should be easy to put on and take off, but must stay in place securely without falling off. Therefore, the sleeve is preferably further provided with a releasable retention means located adjacent the wrist which can be undone to allow of the thumb protector to be slid over the hand, and can be closed to resist the sliding off movement of the thumb-protector. Advantageously the releasable retention means comprise a holding-strap which may be elasticated. Preferably the sleeve extends beyond the wrist and holding-

strap, and the holding-strap passes around and is attached to the outside thereof.

Advantageously, the holding-strap comprises a strap which passes around the wrist, and carries on its two end portions the two parts
5 respectively of a two-part hook-and-loop closure (such as of Velcro®) which may be used to releasably fix the holding-strap in a tightened position around the wrist such that the sleeve and hence the thumb protector is prevented from sliding over the palm of the hand.

In order to impart good grip between the thumb and the buttons of a
10 controller the outer surface of the sheath, or at least those that pass over the parts of the thumb that are used to control the buttons, must have a friction-enhanced surface. This can be achieved by various methods such as applying a coating of a suitable rubberised material or by covering the surface with a close array of small raised nodules.

15 In order to better understand the concept, and by way of example only, the present invention will now be discussed with reference to the accompanying drawings in which:

Figure 1 is a plan view of an embodiment of the present invention.

Referring to Figure 1 a thumb-protector generally indicated 11 is
20 shown disposed on the hand 12 of a wearer. The thumb-protector 10 comprises a sheath 13 which is designed to fit to over the thumb and a sleeve 14 that passes around the palm of the hand, to which the sheath is attached. The sheath 13 and the sleeve 14 are formed at least partially from an elasticated material, and the outer surface of the sheath 13 is coated with a

plurality of small raised nodules 15 which increase the coefficient of friction of the outer surface. In Figure 1, the entire outer surface of the sheath is coated with these raised nodules 15, but it is of course not necessary to have these over the entire surface. Only the part which covers the area referred to
5 earlier as the ball of the thumb, generally indicated 16, needs to have the friction enhancing means disposed thereon.

At least the area 16 of the sheath 13 which covers the ball of the thumb is further provided with padding (not shown), which reduces the injuries caused to games players, but it may in certain circumstances be
10 preferable to provide padding over the majority of the thumb, and the area covered by the sleeve.

During use, the thumb passes through an aperture (not shown) in the sleeve 14 and into the sheath 13 which is located adjacent the aperture. The sheath 13, is connected to the sleeve 14 which passes around the palm of
15 the hand 17 between the wrist, generally indicated 18, and the first set of knuckles. The sleeve 13 and the sheath 14 may be a formed from the same piece or pieces of material, or the lower end of the sheath 13 may be joined to the edge of the sleeve around the aperture during manufacture. Generally, the thumb-protector will be formed by affixing a separately formed sheath 13
20 to the sleeve 14 by, for example, stitching or gluing.

The sleeve 14 has a top edge 19, adjacent the first set of knuckles, and a bottom edge 20 which extends past the wrist 18. An elasticated holding-strap 21 which has a first end 22 and a second end 23 extends around the wrist 18 and is attached to the sleeve 14. On one side of the

strap 21, at the first end 22 thereof, there is provided the first part 24 of a two-part hook-and-loop closure, and on the opposite side of the strap 21, at the second end 23 thereof, the second 25 part (shown in outline) of the two-part hook-and-loop closure. The second part 23 may be passed around the wrist
5 18, to bring the two parts of the hook-and-loop closure into face-to-face alignment, and permit them to be united to fix the holding-strap around the wrist and thereby prevent accidental removal of the thumb-protector. The strap could of course be held closed by other closure means, for example using press studs or by having a button on the one end and a button-hole on
10 the other.

During use, the thumb-protector is placed upon the hand by the following steps. Firstly the strap 21 is fully undone by parting the two parts of the hook-and-loop closure, the hand 12 of the wearer is then inserted into the sleeve 14 from the lower end thereof. As the hand is passed through the
15 sleeve 14, the thumb is inserted into the sheath 13, by passing it through the aperture in the sleeve 14. The fingers continue to pass through the sleeve 14 and out of the top end thereof, and the thumb becomes snugly seated in the sheath 13. After any small adjustments in the positioning of the thumb-protector, the second end 22 of the holding-strap 21 is passed around the
20 wrist 18 of the wearer and is releasably fixed to the first end 22 by means of the two-part hook-and-loop closure. To remove the thumb-protector, the above procedure is carried out in the reverse order.

This provision of a thumb-protector as described above provides a convenient and easy way to protect the hand, and especially the thumb of a

computer game player during protracted and repeated sessions of play. Furthermore it would be possible to use these as cheap and convenient marketing tool, as the logo or trademark of a P.C., console or game manufacturer could be printed on the thumb-protector, thus promoting the
5 company to its target audience i.e. the wearer and those who might watch them playing.

Claims

1. A thumb-protector which comprises a sheath formed at least partially from elasticated material and which is adapted in use to fit snugly over the thumb of a user, and releasable retention means adapted in use to pass around the hand or wrist of a user so as thereby to secure the protector on the thumb of a user, the area of the sheath which in use overlies the ball of the thumb being provided with padding and there being friction enhancing means disposed over at least the outer surface of the sheath which overlies the ball of the thumb.
2. A thumb-protector as claimed in claim 1, in which the releasable retention means comprises a sleeve which in use passes around the palm of the hand between the first knuckles and the wrist and which is connected to the sheath at its end remote from the tip of the thumb thereby preventing the sheath from accidentally falling from the thumb of the wearer.
3. A thumb-protector as claimed in claim 2, in which an aperture is formed in the sleeve through which the thumb is passed prior to insertion into the sheath, and the sheath is attached to the sleeve around the aperture so that in use the thumb passes through the aperture and directly into the sheath.
4. A thumb-protector as claimed in claim 2 or claim 3, in which the sleeve is further provided with releasable tightening means adjacent the wrist and which in use resists the sleeve coming off of the hand.

5. A thumb-protector as claimed in claim 4, in which the tightening means comprises a holding-strap having on the two end portions thereof the two parts respectively of a two-part hook-and-loop closure means, such that the strap may be tightened around the wrist and held in place via the hook-and-loop closure means, and when the thumb-protector is to be removed from the hand, the strap may be undone and the sleeve slipped off over the fingers.

6. A thumb-protector as claimed in claim 5, in which the holding-strap is elastically extensible.

7. A thumb-protector as claimed in any of claim 4 to claim 6, in which the tightening means are located around the wrist of a wearer and the sleeve extends beyond the tightening means and up the arm a short distance.

8. A thumb-protector as claimed in any of claims 2 to 7, in which the sleeve is formed of an elasticated material so that in use it fits snugly on the hand of the wearer.

9. A thumb-protector as claimed in any of the preceding claims, in which the friction enhancing means on the sheath comprises a plurality of small raised nodules disposed over the outer surface at least the part of sheath that overlies the ball of the thumb.

10. A thumb-protector as claimed in any of the preceding claims and substantially as herein described with reference to and as illustrated in the accompanying drawing.



Application No: GB 9816189.6
Classes searched: ALL

Examiner: Mr Nikki Dowell
Date of search: 21 September 1998

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.P): A3V

Int Cl (Ed.6): A41D 13/08, 13/10, 19/00 A63B 71/14

Other: Online: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	US 5497510 (KNOWLES) see especially col 4, lines 31-52 and col 4, line 65 - col 5, line 5.	1-9
X	US 4519097 (CHAPPELL) whole document	1-9
X	US 4164043 (FUJITA) see especially col 2, lines 10-12 and col 3, lines 4-6	1-9
X	WO 97/15203 A1 (FERNANDEZ) see abstract and drawings	1-9

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.